

REMARKS

Claims 1-14, 17, 18, 20, 21, and 23-26 are pending.

Claims 15, 16, 19, and 22 have been cancelled.

Claims 27 and 28 have been added.

In the Office Action dated March 18, 2010, claims 1-5, 7-14, 17-18, 20-21, 24-25 and 26 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,532,535 (Maffezzoni) in view of HD_Speed (SteelBytes.com) and Active Disks-Remote Execution for NASD (Riedel); claims 6 is rejected under 35 U.S.C. § 103(a) as unpatentable over Maffezzoni in view of HD_Speed, Riedel, and U.S. Patent Publication No. 2002/0124124 (Matsumoto); and claim 23 was rejected under 35 U.S.C. § 103(a) as unpatentable over Maffezzoni in view of HD_Speed, Riedel, and CD Speed 2000.

It is respectfully submitted that independent claim 1 is non-obvious over Maffezzoni, HD_Speed, and Riedel.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as held by the U.S. Supreme Court, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Claim 1 recites computer-readable program code provided in computer-readable storage at the data access drive, where the computer-readable program code is executable by a drive controller at the data access drive for generating drive information and user interface rendering data, and where the drive information comprises a status of the data access drive and an operating speed of the data access drive. Moreover, claim 1 recites a user interface module that outputs the drive information via a user interface in accordance with the user interface rendering data.

As conceded by the Office Action, the hypothetical combination of Maffezzoni and HD_Speed do not disclose providing computer-readable program code in computer-readable storage at the data access drive, where the computer-readable program code is executable by a

drive controller at the data access drive for generating the drive information and user interface rendering data as recited in claim 1. 03/18/2010 Office Action at 4.

As clearly evidenced by the HD_Speed reference, the “disk software” that is the subject of the HD_Speed reference is for use with one of several WINDOWS® platforms (indicated as 95, 98, Me, NT4, 2000, and XP operating systems in the HD_Speed reference). The fact that the disk software of the HD_Speed reference is for use with a WINDOWS® platform establishes that its disk software is loaded and executed on a **host computer** that runs such operating system, and is **not** loaded and executed on a **drive controller at the data access drive** (which the Office Action had equated with a hard or removable drive in Maffezzoni, *see* 03/18/2010 Office Action at 3).

As further discussed below, Maffezzoni is also similarly directed to executing software on a host computer system. *See, e.g.*, Maffezzoni, 16:60-62 (“During this start-up phase, the host computer system loads the Genesis application.”); 42:7-43 (referring to installation of Genesis software in the host computer system).

As purportedly disclosing the execution of computer-readable program code by a drive controller at a data access drive, the Office Action cited Riedel. 03/18/2010 Office Action at 4. Riedel discloses active disks with enhanced computational power. Page 11 of Riedel notes that the active disks are able to execute application-level code on drives. However, there is absolutely no hint given anywhere in Riedel that its application-level code that is executable on the drives is for generating drive information and user interface rendering data, where the drive information comprises a status of the data access drive and an operating speed of the data access drive, and where the user interface rendering data produced by the computer-readable program code is used by a user interface module to output drive information via a user interface, as recited in claim 1.

As purported “motivation” to combine the reference teachings, the Office Action cited pages 1-5 of Riedel. 03/18/2010 Office Action at 4-5. Page 4 of Riedel refers to disk drives that “know their contents,” disk drives that “know when to back themselves up,” and disk drives that “know there’s a problem before it happens.” However, it is clear that Riedel itself provides no hint whatsoever that its software is executable on a drive controller at a data access drive to generate drive information and **user interface rendering data**, where such user interface rendering data is used by a user interface module to output drive information via a user interface.

The Response to Arguments section of the Office Action stated that a “computer engineer who wanted to improve performance of Maffezzoni and the disk software of HD_Speed would look at all aspects of commuting including Active Disk technology as taught by Riedel.”

03/18/2010 Office Action at 23. The Office Action argued that “[t]o conclude otherwise would be to disregard years of advances in technology which have illustrated the desire to combine multiple hardware components into one.” *Id.* However, the Office Action has cited to no specific hint given in any of the references regarding executing computer-readable program code by a drive controller at a data access drive to generate user interface rendering data, where a user interface module is to output the drive information via a user interface **in accordance with the user interface rendering data**. The concept of program code executed at a disk drive for generating user interface rendering data clearly does not exist in any of Maffezzoni, HD_Speed, and Riedel. More specifically, page 4 of Riedel merely indicates that the intelligence that can be provided at a disk drive is used to allow the disk drive to know its contents, to know when to perform backup, and to know if a problem exists. There is no hint whatsoever in Riedel regarding program code in a disk drive being able to generate user interface rendering data as claimed.

Thus, even if Maffezzoni, HD_Speed, and Riedel could be hypothetically combined, the hypothetical combination of the references would not have led to the claimed subject matter.

Moreover, it is respectfully submitted that a person of ordinary skill in the art would not have been prompted to combine the teachings of Maffezzoni, HD_Speed, and Riedel. Like HD_Speed, Maffezzoni also describes software executable on a host computer. More specifically, Maffezzoni describes an intelligent backup system that includes a host computer 102 and a peripheral storage device 104 that is able to receive a media cartridge 108. See Maffezzoni, Fig. 1A. To provide the intelligent backup system, Genesis software components are loaded into the host computer. Maffezzoni, 16:60-62 (“During this start up phase, the host computer system loads the Genesis application.”); 42:7-43 (referring to installation of Genesis software in the host computer system). A Genesis preparation wizard, which is part of the Genesis software installed in the host computer, is able to prepare a cartridge 108 in the peripheral storage device 104 to enable the backup system. *Id.*, 10:3-9. Preparation of the cartridge 108 to become Genesis enabled involves writing a Genesis signature ID to the cartridge 108. *Id.*, 14:34-40. In this way, a user can select data from the host computer system to copy as

backup data to the peripheral storage device 104. *Id.*, 11:19-22. In response to a system error, the host computer BIOS will inform the user that an error has occurred, and a SpareTire wizard graphical user interface 353 will then be launched, as depicted in Fig. 6B of Maffezzoni. *Id.*, 41:58-62.

The SpareTire wizard depicted in Fig. 6B, which is part of the Genesis software, is a wizard presented by the host computer based on software that is already installed at the host computer, and not based on “computer-readable program code provided in computer-readable storage at the data access drive,” which was equated by the Office Action with a hard drive or removable drive.

The fact that the Genesis software of Maffezzoni and the disk software of HD_Speed are both executed on the host computer would have **led a person of ordinary skill in the art away from the claimed invention**. As explained in the Background section of the present application:

Although software may be provided (e.g., on a network computer) that allows the user to view and configure the drives, the user has to install the software before it can be used. In addition, the software may not be compatible with the user’s operating system.

Specification, ¶ [0004]. The teachings of Maffezzoni and HD_Speed are similar to what is described in the Background section of the present application—namely, that software related to a drive is executed on a host computer instead of a data access drive.

The third reference, Riedel, cited by the Office Action refers to active disks, but provides absolutely no hint whatsoever of addressing the issue raised in the Background section of the present application. Stated differently, a person of ordinary skill in the art would not have been led by Riedel to modify the teachings of Maffezzoni and HD_Speed to incorporate the software described in Maffezzoni and HD_Speed in a data access drive for execution on a drive controller of the data access drive for generating drive information **and** user interface rendering data.

Since a person of ordinary skill in the art would not have been prompted to combine the teachings of Maffezzoni, HD_Speed, and Riedel, the obviousness rejection is further defective for the foregoing reason.

Claim 7 depends from claim 1, and is therefore allowable for at least the same reasons as claim 1. Moreover, claim 7 recites that the system of claim 1 further comprises a communication path established between the drive controller (at the data access drive) and a system controller and between the system controller and the user interface module, where the drive information

and the user interface rendering data (generated by the computer-readable program code executable by the drive controller at the data access drive) are provided to the user interface module via the communication path.

With respect to the dependent claim 7, the Office Action cited *Ex Parte Smith*, 83 U.S.P.Q.2d 1509 (BPAI 2007), for the proposition that a “simple substitution” of one known element for another or a “mere application” of a known technique to a piece of prior art does not make a claim patentable. 03/18/2010 Office Action at 7. However, the rejection based on this assertion is incorrect, because the Office Action did not cite any objective evidence disclosing the claim elements conceded to be missing by the Office Action from the cited references. Rather than cite to objective evidence, the Office Action merely cited a case to effectively argue that the missing elements would be obvious. Such assertions constitute clear legal error, since the Office Action has merely made a conclusory remark of obviousness without any objective support.

Note that the communication path of claim 7 for providing drive information and user interface rendering data (generated by computer-readable program code executable in the data access drive) is between the drive controller (at the data access drive) and a system controller and user interface module. Note that Maffezzoni and HD_Speed disclose the execution of program code in the host computer, such that the “communication path” between the data access drive and the user interface module of claim 7 would be rendered completely unnecessary. In other words, the teachings of Maffezzoni and HD_Speed would have led to a person of ordinary skill in the art away from combining Maffezzoni, HD_Speed, and Riedel to achieve the claimed subject matter.

Claim 7 is therefore further allowable for the foregoing reason.

The obviousness rejection of independent claims 11 and 18 over Maffezzoni, HD_Speed, and Riedel is similarly erroneous.

Dependent claims, including newly added dependent claims 27 and 28, are allowable for at least the same reasons as corresponding dependent claims.

In view of the allowability of base claims, the obviousness rejections of dependent claims have been overcome.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 08-2025 (200312050-1).

Respectfully submitted,

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